

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 13.28**WELDING INSPECTION REPORT****Resident Engineer:**Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-011074**Date Inspected:** 05-Jan-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 1000**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1830**Contractor:** Oregon Iron Works Clackamas, Or.**Location:** Clackamas, OR**CWI Name:** M. Gregson, J. Salazar**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** Hinge K Pipe Beams**Summary of Items Observed:**

The Quality Assurance Inspector Sean Vance arrived on site at Oregon Iron Works, Inc (OIW) in Clackamas, OR, to randomly observe the in process welding of the Hinge K Pipe Beam assemblies. The QA Inspector arrived on site to randomly observe the OIW Quality Control (QC) Inspectors in process and completed visual and nondestructive testing. Upon the arrival of the QA Inspector the following observations were made:

Hinge-K Pipe Beam Assembly 102A-3**a111-3 Forging to a110-3 Base Plate**

The QA Inspector noted that OIW welder # O6, Mr. Tim O'Brian was continuing to blend the weld start/stops, removing weld spatter and grinding all areas, which were previously marked by OIW QC Inspectors. The QA Inspector noted that these areas were on the previously completed submerged arc welded (SAW), HPS 485W stiffeners, designated as weld joints #W1-01 thru W1-163. The QA Inspector spoke with QC Inspector Jose Salazar and Mr. Salazar explained that the visual clean-up that was being performed by Mr. O'Brian, was intermittently monitored and areas that were completed, were then visually re-inspected. See attached picture below.

Hinge-K Pipe Beam Assembly 102A-1**a111-1 Forging to a110-1 Base Plate**

On this date,the QA Inspector was notified by QC Inspector Jose Salazar that the partial penetration welds (PJP's), designated as weld joints #W2-01 and W2-02 were completed. QC Inspector Salazar notified the QA Inspector that welder #T23, Mr. John Tellone, was currently grinding off excessive reinforcement on the completed welds. Mr. Salazar explained that the reinforcement exceeded 1/8" (3mm), after measuring with a bridge cam gauge. Mr.

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Salazar explained that the run-off tabs will then be cut off. QA Inspector later noted that the grinding was complete, run-off tabs cut off and witnessed OIW utilizing an overhead shop crane and slings and laying this assembly on the shop floor.

QC Inspector Salazar later explained to the QA Inspector, OIW will pick this assembly up and place in the welding positioner. Mr. Salazar explained that the submerged arc welding on weld joints #W2-17 and W2-18 will then start. The QA Inspector noted that these were the last two partial penetration (PJP) weld joints on the a109 Cap Plate/a110 Base Plate to ab106/a106 and b106 stiffeners. See attached picture below.

OIW Fabrication Shop-Bay 6 (ESW Overlay Process)

Hinge-K Pipe Beam Fuse Assembly 120A-6

a124-14 Half Fuse to a124-2 Half Fuse

The QA Inspector was notified by QC Inspector Jose' Salazar that OIW had previously received additional shipment of 316L and OIW will continue the Electroslag Welding (ESW), on this Fuse 120A-6. The QA Inspector noted that the ESW on the Fuse had previously remained idle from 10/1/09 thru 1/4/10, pending the shipment of additional 316L stainless steel strip. The QA Inspector witnessed OIW welder #F17, Mr. Igor Frolov, a helper and welding Lead Troy Smith performing various adjustments to the submerged arc welding (SAW) machines, in preparation for the ESW welding. The QA Inspector spoke with Lead Troy Smith and Mr. Smith explained that the amperage, voltage and travel speed adjustments were being performed, prior to commencement of the ESW, per welding procedure specification (WPS) 7003. The QA Inspector noted that OIW had also previously set-up a stationary torch, for the continuous pre-heat, during the ESW process. The QA Inspector noted that approximately 25% of the third and final layer of 316L had been previously completed and OIW was setting up to finish the remaining 75% 316L. The QA Inspector noted that at end of shift, OIW had performed a trial run of ESW. The QA Inspector noted that the trial run was not successful and OIW will have to continue the adjustments, prior to successfully performing the ESW. See attached picture below.

Material, Equipment, and Labor Tracking (MELT)

QA Inspector Sean Vance performed a verification of material, personnel and equipment involved with the project.

The QA Inspector observed at Oregon Iron Works: 5 OIW production personnel and 2 QC Inspectors.

The QA Inspector observed at AG Machine shop: 1 AG machinist and 1 AG supervisor.

The QA Inspector noted that no work was performed at OIW Vancouver paint shop.



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Summary of Conversations:

As noted above.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mohammad Fatemi (916) 813-3677, who represents the Office of Structural Materials for your project.

Inspected By:	Vance,Sean	Quality Assurance Inspector
Reviewed By:	Adame,Joe	QA Reviewer
